



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/043,919

01/08/2002

Hiroichi Ishikawa

09792909-5298

9913

26263

7590

08/11/2004

SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

ASSAF, FAYEZ G

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/043,919	Applicant(s) ISHIKAWA ET AL.	
	Examiner Fayez G. Assaf	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 2872

DETAILED ACTION

Election/Restrictions

Applicant's election of invention I: claims 1-12 and 15-18 in the reply filed on 6/21/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 6-11 are rejected under 35 U.S.C. 102(e) as being anticipated by (Hara et al. US 2001/0015810 A1).

Hara discloses an optical multilayer structure material comprising an optical thin film 94 of Fig. 16) having a bridge structure (see Fig. 16) on a substrate (32 of Fig. 16) through a

Art Unit: 2872

gap portion having a size that enables an interference phenomenon to occur (33 of Fig. 16), wherein an amount of a light which reflects off, is transmitted by, or is absorbed by said optical thin film is changed depending on displacement of said optical thin film in a direction perpendicular to said substrate (claim 1), said optical thin film comprising a movable portion (8 of Fig. 16), and a supporting portion (35 of Fig. 16) for uniformly supporting a circumference of said movable portion by surrounding said gap portion (see Fig. 16).

Regarding claim 2, Hara discloses as a one electrode, a conductive layer (7 of Fig. 16) formed so as to be in contact with said substrate, wherein said optical thin film (4 of fig. 16) is formed as another electrode at a position opposite to said conductive layer.

Regarding claim 3, Hara discloses the movable portion in said optical thin film having a plane in a rectangular form (see Fig. 16).

Regarding claim 6, Hara discloses the supporting portion in said optical thin film sloping at an oblique angle to the surface of said substrate (see Fig. 27A).

Regarding claim 7, Hara discloses the optical thin film having, in at least one of said movable portion and said

Art Unit: 2872

supporting portion, a through hole in communication with said gap portion (6 of Fig. 27B).

Regarding claim 8, Hara discloses the thin film comprising recess portion at a position of each corner (Fig 27 to Fig. 31).

Regarding claim 9, Hara discloses the at least one of said conductive layer and said optical thin film being a composite layer (4 of Fig. 29) comprising two or more layers having different optical properties.

Regarding claims 10-12, Hara discloses said driving means changes the optical size of said gap portion by using an electrostatic force generated by applying a voltage to said conductive layer and said optical thin film (Abstract, see Fig. 16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 2872

Claims 4, 5, 12 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al. Regarding claim 4 and 5, Hara discloses the claimed invention except for the movable portion in said optical thin film having a plane in a circular form or an elliptic form.

However, such change in shape or size does not serve as basis for patentability.

Lacking showing to the contrary, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such forms, since such a modification would involve only a mere change in size of a component.

One would have been motivated to scale the size or change the shape of plane of the film in order to accommodate the device in different geometries (such as ferrule).

In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976)

Regarding claims 15-18, Hara discloses the claimed invention except for the device being employed in a light switching device or image display wherein the optical multilayer structure material being arranged in a one/two-dimensional array form.

However, the device of Hara appears to be adaptable in such devices for visible light range of wavelengths.

Art Unit: 2872

It would have been obvious, at the time the invention was made to a person having ordinary skill in the art to adapt the filter of Hara in such devices so as to achieve high precision filtering of light.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Needham et al. (US 2002/0167730 A1)

Magel et al. (US 5231532)

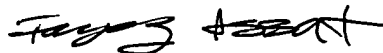
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fayez G. Assaf whose telephone number is (571) 272-2307. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Fayez G. Assaf
Examiner
Art Unit 2872

FA

8/8/2004